

What is claimed is:

1. A substrate processing unit comprising:
 - a processing vessel for accommodating a substrate;
 - 5 a cleaning gas supply system for supplying a cleaning gas into the processing vessel to be used in performing a cleaning of an interior of the processing vessel;
 - an exhaustor for exhausting the interior of the processing vessel;
 - 10 an operating state detector for detecting an operating state of the exhaustor; and
 - an end point detector for detecting an end point of the cleaning based on a detection result from the operating state detector.
- 15 2. The substrate processing unit of claim 1, wherein the operating state detector includes a vibration detector for detecting a vibration of the exhaustor.
- 20 3. The substrate processing unit of claim 2, wherein the vibration detector includes a sound wave detector for detecting a sound wave produced by the vibration of the exhaustor.
- 25 4. The substrate processing unit of claim 2, wherein the end point detector detects the end point based on a change

in the intensity of the vibration.

5. The substrate processing unit of claim 1, wherein the
exhauster includes a rotatable body of revolution for
5 exhaust, and the operating state detector includes a
rotation detector for detecting a rotation of the body of
revolution.

6. The substrate processing unit of claim 1, wherein the
10 exhauster includes a rotatable body of revolution for
exhaust and a driving mechanism for rotating the body of
revolution by a current supply, and wherein the operating
state detector includes a current detector for detecting a
current supplied to the driving mechanism.

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7. The substrate processing unit of claim 1, wherein the
exhauster includes a rotatable body of revolution for
exhaust and a magnetic bearing for supporting the body of
revolution by a current supply, and wherein the operating
20 state detector includes a current detector for detecting a
current supplied to the magnetic bearing.

8. A substrate processing unit comprising:
a processing vessel for accommodating a substrate;
25 a process gas supply system for supplying a process
gas into the processing vessel to be used in performing a

processing on the substrate;

an exhauster for exhausting an interior of the processing vessel;

an operating state detector for detecting an operating
5 state of the exhauster; and

an end point detector for detecting an end point of the processing based on a detection result from the operating state detector.

10 9. The substrate processing unit of claim 8, wherein the operating state detector includes a vibration detector for detecting a vibration of the exhauster.

15 10. The substrate processing unit of claim 9, wherein the vibration detector includes a sound wave detector for detecting a sound wave produced by the vibration of the exhauster.

20 11. The substrate processing unit of claim 9, wherein the end point detector detects the end point based on a change in the intensity of the vibration.

25 12. The substrate processing unit of claim 8, wherein the exhauster includes a rotatable body of revolution for exhaust, and the operating state detector includes a rotation detector for detecting a rotation of the body of

revolution.

13. The substrate processing unit of claim 8, wherein the
exhauster includes a rotatable body of revolution for
5 exhaust and a driving mechanism for rotating the body of
revolution by a current supply, and wherein the operating
state detector includes a current detector for detecting a
current supplied to the driving mechanism.

10 14. The substrate processing unit of claim 8, wherein the
exhauster includes a rotatable body of revolution for
exhaust and a magnetic bearing for supporting the body of
revolution by a current supply, and wherein the operating
state detector includes a current detector for detecting a
15 current supplied to the magnetic bearing.

15. A method of detecting an end point of a cleaning of a
substrate processing unit, the method comprising the steps
of:

20 an operating state detecting process for detecting an
operating state of an exhauster wherein a cleaning gas is
supplied into a processing vessel of the substrate
processing unit to be used in cleaning an interior of the
processing vessel and the interior of the processing vessel
25 is exhausted by the exhauster; and

an end point detecting process for detecting the end

point of the cleaning based on the detected operating state of the exhauster.

16. A method of detecting an end point of a substrate processing, the method comprising the steps of:

an operating state detecting process for detecting an operating state of an exhauster wherein a process gas is supplied into a processing vessel which accommodates a substrate to be processed and an interior of the processing vessel is exhausted by the exhauster; and

an end point detecting process for detecting the end point of the processing based on the detected operating state of the exhauster.